

Claims

1. A titanium alloy material which can be used as a basic structural material in hydrogen absorption environments which has superior hydrogen absorption properties, and is formed from Al: 0.50-3.0% (mass%, hereafter idem in chemical compositions), and a Ti-Al alloy comprising residual Ti and unavoidable impurities.

2. The titanium alloy material according to Claim 1, wherein the content of Fe, Mo, Ni, Nb and Mn which are present as impurities is suppressed to: Fe: 0.15% or less, Mo: less than 0.10%, Ni: less than 0.20%, Nb: less than 1.0% and Mn: less than 1.0%.

3. A titanium alloy material comprising a bulk part formed from a Ti-Al alloy having the chemical composition specified in Claim 1, and an oxide film coated thereupon, the thickness of said oxide film being 1.0-100nm.

4. The titanium alloy material according to Claim 3, wherein 50% or more of the oxide film is a crystalline oxide.

5. The titanium alloy material according to Claim 3, wherein an Al concentration layer having an Al concentration 0.3% or more higher than the Al concentration of the bulk part, the Al concentration lying in the range 0.8-25%, is formed between said bulk part and said oxide film.

6. A titanium alloy material comprising an Al concentration layer

having an Al concentration 0.3% or more higher than the Al concentration of a bulk part, the Al concentration lying in the range 0.8-25%, formed on a bulk part formed of a Ti-Al alloy having the chemical composition according to Claim 1.

7. The titanium alloy material according to Claim 5, wherein the thickness of the Al concentration layer is 0.10-30 μ m.

8. The titanium alloy material according to Claim 1 which can be used in contact with a steel member.